

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of

Advanced Television Systems)
and Their Impact Upon the) MM Docket No. 87-268
Existing Television Broadcast)
Service)

Fourth Notice of proposed Rulemaking
and

Third Notice of Inquiry

Comments of Thomas C. Smith

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OPENING COMMENTS

I wish to voice my comments, opinions, and concerns
about the Commissions latest proposals for the transition

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from our current NTSC television system to the proposed advanced digital television system.

The rules derived from the findings of this proceeding will determine the future of broadcast television. But, I find very little in this notice that describes what the Commission foresees as the future of broadcast television. The only discussion is on the issues of making the transition from analog to digital television transmissions. There is little discussion on issues concerning the future growth of the either additional full-power stations or the future of any secondary television services such as translators and low-power television. The viewers of the secondary services may rely more on off-the-air television than any other portion of the population. Many of these viewers live in rural areas with few full-power stations and limited access to cable services. The Commission says that off-the-air television is important to the American public, but fails to state how it plans for broadcasters to meet the future needs of the public. From it's discussions about the timetables for transition and recovering spectrum, the commission may be more concerned about raising money from auctions, instead of promoting the growth of existing services, such as broadcast television, to meet the future needs and demands of the public. To make an orderly transition to advanced television system, we have to know if service will be limited to the current number of stations in existence or does the commission plan any increases in the number of stations in the future to meet the needs of many growing markets.

ISSUES

A. Spectrum Issues

The Commission brought up the issue of whether the new ATV channel should remain the same bandwidth as the present NTSC system of 6 mhz or if some other bandwidth should be selected for greater spectrum efficiency. The commission stated that the Grand Alliance system has been designed for a 6 mhz channel and that it provides the best balance between spectrum efficiency and broadcast needs.

I agree with the commission that the ATV channel bandwidth should remain at 6 mhz. To change the bandwidth at this time would no doubt require changes in the design of the system which would further delay the start of the digital TV transmissions. Also, any decrease in bandwidth would decrease the amount of data transmitted by an ATV station. Any reduction of the data rate would require an increase in the already high compression rate of the video signal which may lower the ability of the system to transmit a HDTV quality picture.

B. Definition of Service

The Commission asked if broadcasters should be able to offer other services on the new ATV channels. I agree with the commission that it is important to preserve our free over-the-air television system. In order to maintain a healthy over-the-air system, broadcasters should be required to use majority of the digital signal for broadcast television. It could cause a great deal of confusion to the public if broadcasters dropped television programming for other services entirely. This could force viewers to seek other video providers and decrease the

growth and competitiveness of over-the-air television.

Broadcasters should be allowed to provide either HDTV or multiple NTSC levels of programming. We need some incentive for broadcasters to make the large investment in ATV and multiple program services will provide that incentive. Also, there will not be enough HDTV type programming for broadcasters when ATV starts and most of the programming will not need to be at that high of a transmission level. I LOVE LUCY will always be broadcast someplace.

Data type services should be limited to excess data capacity much like current data transmissions are limited to unused picture area in the vertical interval. The commission should not allow ancillary data services to decrease the amount of data used for video services so that they are degraded. The current rules concerning data and subscription services should be used for the basis for similar rules for ATV.

C. Eligibility Issues

The Commission has already established that all existing broadcasters and those with applications filed before October 24, 1991 should be eligible for an ATV channel. The commission also extended eligibility to those applicants who received construction permits for NTSC stations after October 24, 1991 for any ATV allocation left after the initial allotments are made. It would be unfair of the Commission to change the playing field at this date. Stations that have financial problems and are off-the-air, or in bankruptcy should also remain eligible. Loss of that eligibility would reduce the potential of those stations to

get additional financing or of being sold, which could cause the loss of service to the public due to their possible failure.

D. Public Interest Obligations

The obligations of a broadcaster should not change as long as we use the current licensing standard. The programming will remain the same, only the method of transmitting the signal is changing.

The only change that should be considered is the distribution of types of public service programming in a multi-program service mode of transmission. If, a station wishes to devote a block of one type of programming to one program service, it should meet the station's overall obligation for that type of programming. It may be better to run a block of children's or news programming on one program service than scattered over several program services. Access to the airwaves by candidates for public office and other obligations of that type should be spread over all services.

E. Transition.

The Commission addresses a number of issues under this heading. These issues include the timetable for the transition, length of application and construction periods, licensing of ATV and NTSC transmitters, and the simulcast period. The only thing that has changed, since the Commission issued its tentative final rulemaking notice from its Third Report/Third Notice that was issued on September 12, 1992, is the issue of the transmission of multiple program services from one transmitter.

1. Simulcast period

Since that time, it has become apparent that the proposed ATV system would have the ability to transmit more than one program per channel. The commission has also noted that circumstances have changed with the ability to provide multiple program services on a single digital channel.

Originally, the idea was that program producers would start to make programs in a HDTV format and broadcasters would have to convert them for their NTSC channels so those still viewing on NTSC sets would not be deprived of their favorite programming. With multiple program services, broadcasters may now, instead, put their existing NTSC channel on one of their digital program services.

With the original proposal for the phase in of the simulcast rule, some programming would have been unique to advanced television when it begins. This would have been an incentive for those purchasing the first ATV sets.

Now, with multiple program services, there is a new incentive to purchase an advanced television. A viewer may now expect to receive a number of choices of programming from a broadcaster in one package. Because of this, the Commission may need to reconsider the simulcast rule with the objective of requiring the NTSC program to be simulcast on one of the digital program services, when, a station operates in the multi-channel mode.

2. Licensing Issues

I suggest that the Commission handle the licensing of both the ATV and NTSC transmitters like broadcast auxiliary stations. Broadcast auxiliary stations have their own

instruments of authorization which describe their facilities, but their renewals and transfers are tied to the license of the primary station. I would suggest that the commission transfer a stations license to the ATV station when it goes on the air. At that time, the NTSC transmitter would receive a limited license similiar to the licenses that station may hold for it's studio to transmitter or remote pick-up systems.

3. Transition Timetable

The industry has already started to make plans for the transition based on timetables that were issued as final rules by the Commission in the Docket FCC 92-438 on September 17, 1992. The only reason, the commission seems to have for the speed up of these timetables, is to facilate the earlier auctioning of any spectrum that may have been freed up. The original timetables were well thought out and the Commission should stick with them.

4. Length of Application/Construction Period

The Commission now proposes that the time a licensee will have to state their intention to construct an ATV station will be reduced from the application period of 3 years to a period of 6 months after the ATV allocation table or standards are set, whichever is later. I believe that broadcasters will need more than 6 months to make the decision, particularly if both the allocation table and standards are issued at nearly the same time. Broadcaster cannot be expected to make such a large decision until they have had time to evaluate all the information. This is particulary true for small stations with limited staff and resources. If the proposed election period is retained, I

believe that it should be 12 to 18 months in length.

5. Small Stations

The commission needs to provide for special consideration for smaller stations, whether they are commercial or public stations. It is going to be very difficult for small stations to finance the conversion to digital transmission. The cost of the construction of a second transmission system may be equal to or even be greater than the value of the station. Few financial institutions would make loans that approach or exceed the value of any business. For this reason the Commission needs to be willing to grant waivers, for stations located in the smaller markets, additional time or methods to make the transition.

For UHF stations that elect not to apply for a second ATV channel, the Commission should create a method for the conversion of the existing NTSC facility to ATV. This could include the splitting of time between NTSC and ATV operation for a period of the transition or just switching to ATV at the end of the ATV conversion period. The Commission could allow these stations to make the decision to convert or cease transmission at some later date into the transition period to ATV. For smaller VHF stations that need to make the conversion to the UHF band and small UHF stations electing to construct the second ATV facility, the commission could extend the construction period deadline to a point that is more in sync with the replacement cycle of their current transmitter plant. The delay of 3 to 5 years after the original construction deadline in smaller markets is not going to impact the transition like it would

in the larger markets. This could help small market stations with less resources convert to ATV without forcing them off-the-air at the end of the conversion to ATV. The last thing the conversion to ATV should do is cause the loss of service to the public, or the loss of businesses or jobs.

6. Recovery of Spectrum/ Third Notice of Inquiry

The Commission has made much discussion about the recovery of spectrum. I believe that the commission may be overly optimistic in it's desire for recovery of spectrum. In these discussions, the Commission has not stated how that will be achieved.

The Commission has stated that it plans to use the so-called taboo channels for the new ATV service by reducing the spacing between station in the UHF band from the current every 6 channels to some lesser number. Some additional channels may be added due to improvements in receiver technology but those additions may be limited.

The tuners in early UHF receivers were subject to many types of interference problems due to their poor design. The early tuners had very little preselection filtering at their inputs. Newer tuners have tunable preamplifiers which should aid in the elimination of intermodulation problems, but, these tuners may still may be subject to intermediate frequency, oscillator, and image problems. These problems are common to all tuners and are considered in other broadcast services such as both AM and FM allocations. Also adjacent stations still have to be considered. Because ATV tuners will have to provide a very flat frequency response, the tuner's frequency bandwidth

will have to slightly extend into the adjacent channels space.

Currently with the every 6 channel spacing in the UHF band the maximum number of stations in any one area is 10 stations going down to 8 stations depending on what channels are assigned to one area. There are 2 to 5 additional channels that are now limited to a 20 mile separation because of intermodulation and intermediate frequency beat interference. Those channels with intermodulation restrictions could be co-located. The rest of the channels are restricted due to Adjacent channel, oscillator, intermediate frequency and image interference problems. This places a limit of 15 stations at any one local with the use of up to 40 UHF channels prohibited.

Four taboo channels are created by every station because of the sound and video image interference signals. With different signal carrier position within an ATV channel some of the sound image interference problem channels may be reduced. Image interference restrictions may be able to be decreased to 2 channels with ATV, which in turn would allow up to 12 fewer restricted channels in a locale. Due to some other interference problems there still may need to maintain a 20 mile separation between some transmitters.

Unless new receiver designs can correct these problems, it will be difficult to reduce all these interference problems. There is also the problem of all the current NTSC sets that will be in use during the transition period as they will still be subject to many of these interference problems.

The Commission has proposed, that with the potential for

reduced interference, the spectrum for television could be reduced and made into a contiguous block of frequencies. Part of this is based on the fact that on the average of only 80 MHz of spectrum is used in most markets with 120 mhz used in the largest markets. With alternate channel spacing, the minimum spectrum needed would be about 240 MHz. But, because the cities, where TV stations are located, are not in nice neat patterns a number of additional channels would be needed to compensate for overlap of stations. Some channels will still probably need to be restricted because of receiver interference problems also.

The Commission plans to convert the unused allocations in the existing NTSC allocation table to ATV allocations. By my count, there are about 2400 allocations with 1542 stations operating and another 150 to 200 construction permits which leaves about 700 unused allocations at the present time. Does the Commission plan on restoring these unused allocations from the existing 820 UHF stations when they cease NTSC transmissions or will the communities that these unused allocations were assigned, be deprived of them? Restoring these allocations will ease the demand for TV any future broadcast spectrum needs and allow for continued growth of TV stations.

Finally, the Commission has already asked television broadcasters to become more spectrum efficient when it reassigned channels 70 through 83 to other services. At that time broadcasters gave up 84 MHz out of the 492 MHz assigned to television in 1952 which was 17 percent of the television Spectrum. If the Commission makes ATV an all

UHF service, broadcasters would give up 12 more channels which contains 72 MHz of spectrum. Between the loss of channels 70 through 82 and the VHF band, broadcasters would give up 156 MHz of spectrum which comes to 31 percent of spectrum originally allocated to television. The current television bands takes up 13.8% of the spectrum under 3 gigahertz and all of broadcasting including it's auxiliary services use 19.8% of the spectrum under 3 ghz and 4.65% of the spectrum under 30 ghz. The reception of broadcast signals is the public's greatest daily use of the spectrum and the Commission should avoid disruption of these services.

If all of the about 10,500 full-power, low-power, and translators end up sharing the 336 MHz of the existing UHF band, I believe that the Commission will have made efficient use of the spectrum allocated to television. Despite previous plans to consolidate the TV spectrum having failed, I believe that the transition to ATV may be the best opportunity to consolidate all of TV to the UHF band.

The Commission has asked about the moving of some stations either back to their original channel or to another channel at the end of the transition period to facilitate the consolidation of the TV band. I believe that requiring stations to move a second time should be avoided, if possible. If all new ATV stations are placed in the UHF band, there should be little or no need to move any stations. No UHF station should be required to move to the VHF band for the transition period and move back to the UHF band at the end of that period. If stations will be

required to move to different channels at the end of the transition, it should be within the same band and they should be made aware of these moves when the ATV allocation table is released. Then, stations can order equipment, such as antennas, that are capable of being modified to operate on both channels. The burden to these stations should be as little as possible and the commission should issue rules concerning sharing of expenses similiar to those, that have be issued, for other spectrum moves.

OTHER CONCERNS AND COMMENTS

1. Future Growth in Broadcast Television.

As I stated in my opening comments, I believe that the Commission has not discussed the future of broadcast television in great enough detail in these proceedings. Most of the discussion has concerned the nuts and bolts of the conversion of the technology from analog to digital.

The Commission has recently sought comment on two issues that will affect the transition to the advanced television. These two issues are the repeal of many of the television ownership rules, mainly doupoly and the repeal of the dual network rule. I believe that if the Commission repeals these two rules, there will be increased pressure for more television outlets.

If, the doupoly rule is repealed, there will be the need for more stations to avoid potential of concentration of the market place. There is the potential of fewer owners dominating the smaller markets due to the fewer number of stations. If the commission allows each owner two stations in any one market, then in many markets, competition will be cut in half with as few as 2 station owners in some markets.

If the dual network rule is repealed, there will be a need for stations to serve as outlets for any new networks that the existing networks may start. At the present time, there are not enough stations available for the new United Paramount and Warner Networks.

The Commission currently has a freeze on new stations within 100 miles of the top 30 markets. This freeze covers more markets than just the top 30 due to the mileage restriction. When the ATV allocation table is issued, there will be a freeze on applications for any new NTSC stations and until the existing stations finish applying for their ATV stations, there will be not be any new entrants to expand the broadcast television marketplace.

In comments, I have submitted to the Commission concerning the television ownership rule (Docket FCC 94-324) and the network/affiliate programming rules (Docket FCC 95-254), I have raised these concerns. I believe the Commission needs to address the need for competitive growth during and after the transition to the advanced television system.

2. Auctions and Spectrum Fees

I believe that part of the reason for this notice of rulemaking is that the Commission is become more interested in conducting a clearance sale of spectrum by auction then conducting sound analysis of public policy. Many of the recent dockets that relate to new services or application processing problems seem to discuss auctions. Inconvenience to existing users of spectrum does not seem to matter as long as the FCC can get the highest bid.

I believe that auctions are unfair to the majority of

spectrum users. Many of the users are small and medium size businesses that can not outbid the very large information and media giants. Many services such as broadcasting do not lend themselves to set asides for small business like PCS does. Auctions also open themselves up to big money speculators. This may cause the most qualified applicant to be rejected because they cannot afford to place the highest bid.

In the future, because of Federal budget problems, I expect all users of spectrum will be required to pay for it's usage. The commission needs to come up with some fair method of charging both new and existing users. I feel that some kind of franchise fee, like local governments use for cable's use of the public right-of-way, would be fairer. With a fair and predictable fee system, the Commission would be able to make decisions based on good usage and public policy and not on what the next auction can get. I feel that the Commission may also be using auctions to avoid legal actions when deciding among competing applicants for various services.

Also, spectrum fees should be part of a larger program of the government getting fair value for use of all it's resources such as grazing, logging, mining or the use of the airwaves.

CLOSING SUMMARY

I believe that the Commission has revisited some of these issues concerning the transition to advance television more on the desire to auction off desirable spectrum than to smooth the transition. Many of the issues of the transition cannot be fully analyzed until the

Commission issues the table of allocations for the new advanced television service. Until the criteria for the allocations and their locations are fully known, it will be difficult to determine how much spectrum will be needed, where transmitters will need to be located or what potentials for interference will exist. These issues will determine both the length of the transition and any potential for recovery of spectrum.

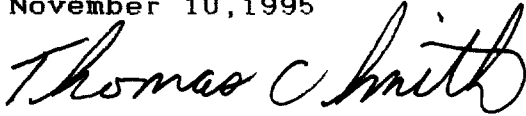
The last determination of the length of the transition is the acceptance of the consumer. The consumer has rejected other improvements in television such as the laser disc and S-VHS recorders because of cost or lack of interest. The consumer may reject advanced television also.

The commission also needs to remain aware that this is a government mandate and that the transition to ATV will cost the public and the broadcast industry a great deal of money. And with the current distrust by the voting public of the government, the conversion to ATV may be a hard sell. This is made harder by the fact that this mandate does not improve the health and safety of the public as the environmental, consumer or auto safety laws did.

I would recommend that the Commission stick to its original decisions that it issued on September 17, 1992. I believe that all the issues discussed in this notice will need to be revisited again after the Commission releases the advanced television table of allocations. At that time, all parties in this proceeding will be more informed on how to proceed with the transition and what problems may lie ahead.

These comments represent my personal opinions drawn from
26 years as a technician in television broadcasting. They
do not represent any other group.

Respectively Submitted;
November 10, 1995

A handwritten signature in cursive script that reads "Thomas C. Smith". The signature is written in black ink and is positioned above the printed name and address.

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